

SEQUENCE LISTING

```
<110> Luche, Ralf M. Wei, Bo
```

<120> DSP-2 DUAL-SPECIFICITY PHOSPHATASE

```
<130> 200125.407
```

<140> US 09/527,376

<141> 2000-03-16

<160> 17

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 834

<212> DNA

<213> Homo sapien

18-632

<400> 1

cttttcctgt	atttttttgc	ttcattcttg	gtgtttcgct	gactgctgac	cactgaccca	60
ccgccttgat	gacagcaccc	tcgtgtgcct	tcccagttca	gttccggcag	ccctcagtca	120
gcggcctctc	gcagataacc	aaaagcctgt	atatcagcaa	tggtgtggcc	gccaacaaca	180
agctcatgct	gtctagcaac	cagatcacca	tggtcatcaa	tgtctcagtg	gaggtagtga	240
acaccttgta	tgaggatatc	cagtacatgc	aggtacctgt	ggctgactcc	cctaactcac	300
gtctctgtga	cttctttgac	cctattgctg	accatatcca	cagcgtggag	atgaagcagg	360
gccgtacttt	gctgcactgt	gctgctggtg	tgagccgctc	agctgccctg	tgcctcgcct	420
acctcatgaa	gtaccacgcc	atgtccctgc	tggacgccca	cacgtggacc	aagtcatgcc	480
ggcccatcat	ccgacccaac	agcggctttt	gggagcagct	catccactat	gagttccaat	540
tgtttggcaa	gaacactgtg	cacatggtca	gttccccagt	gggaatgatc	cctgacatct	600
atgagaagga	agtccgtttg	atgattccac	tdtgagccat	cccacgagcc	cctgcattgg	660
agtcagaggt	acagatctat	tgttgatctt	acaccaagat	ccaaacttga	acattctact	720
tttgttgata	cagaaaaaaa	cagatgatgc	cttttatgag	cacaaaaaag	agttgctgta	780
gcttttaact	ttataatcca	tttttttca	gattaaacta	attgtgagat	ggtg	834

<210> 2

<211> 188

<212> PRT

<213> Homo sapien

68-632

<400> 2

 Met
 Thr
 Ala
 Pro
 Ser
 Cys
 Ala
 Phe
 Pro
 Val
 Gln
 Phe
 Arg
 Gln
 Pro
 Ser

 Val
 Ser
 Gly
 Leu
 Ser
 Gln
 Ile
 Thr
 Lys
 Ser
 Leu
 Tyr
 Ile
 Ser
 Asn
 Gly
 Gly
 Ser
 Asn
 Gly
 Ser
 Asn
 Gly
 Gly
 Gly
 Ser
 Asn
 Gly
 Gly
 Gly
 Ser
 Asn
 Gln
 Ile
 Thr
 Met
 Leu
 Ser
 Ser
 Leu
 Ser
 Asn
 Gln
 Ile
 Thr
 Met
 Asn
 Thr
 Leu
 Thr
 Met
 Asn
 Ile
 Thr
 Met
 Asn
 Thr
 Leu
 Tyr
 Glu
 Asn
 Ile
 Thr
 Ile
 Asn
 Ile
 Thr
 Met
 Ile
 Asn
 Thr
 Leu
 Tyr
 Glu
 Asn
 Ile
 Tyr
 Glu
 Asn
 Ile

A

```
65
                    70
                                       75
Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys
                                                                     7 Sey 3
               85
                                   90
Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser
                      1.0.5
Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu
                            120
Asp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn
                       135
                                           140
Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly
                   150
                                       155
Lys Asn Thr Val His Met Val Ser Ser Pro Val Gly Met Ile Pro Asp
               165
                                   170
Ile Tyr Glu Lys Glu Val Arg Leu Met Ile Pro Leu
<210> 3
<211> 10
<212> PRT
<213> Homo sapien
<400> 3
Leu His Cys Ala Ala Gly Val Ser Arg Ser
<210> 4
<211> 23
<212> PRT
<213> Homo sapien
<400> 4
Gly Arg Val Leu Val His Cys Gln Ala Gly Ile Ser Arg Ser Gly Thr
Asn Ile Leu Ala Tyr Leu Met
           20
<210> 5
<211> 21
<212> DNA
<213> Artificial Sequence
<220>
<223> PCR primer
<400> 5
ccactgggga actgaccatg t
                                                                      21
<210> 6
<211> 20
<212> DNA
<213> Artificial Sequence
<220>
<223> PCR primer
```

<400> 6 gtaggcgagg	cacag	ggcaç	g											20
<210> 7 <211> 20 <212> DNA <213> Artif	ficial	Sequ	uenc	e										
<220> <223> PCR p	rimer													
<400> 7 cctgcttcat	ctcca	cgctg	g											20
<210> 8 <211> 23 <212> DNA <213> Artif	ficial	Sequ	uenc	ce										
<220> <223> PCR p	rimer													
<400> 8 cetgtggctg actecectaa etc								23						
<210> 9 <211> 20 <212> DNA <213> Artif	icial	Sequ	uenc	:e								•		
<220> <223> PCR p	rimer													
<400> 9 cagcgtggag	atgaa	gcago	g											20
<210> 10 <211> 170 <212> PRT <213> Homo	sapie	n												
<400> 10	7	7) 7)	7	D	7	C	7.1 -	mb	7	C	7.00	C1	Com	
Ser Asp Leu 1	_	5	_				10					15		
Pro Leu Ser	Asn a	Ser G	∃ln	Pro	Ser	Phe 25	Pro	Val	Glu	He	Leu 30	Pro	Phe	
Leu Tyr Leu 35	Gly	Cys A	Ala	Lys	Asp 40	Ser	Thr	Asn	Leu	Asp 45	Val	Leu	Glu	
Glu Phe Gly	'Ile	Lys I	Гуr	Ile 55	Leu	Asn	Val	Thr	Pro 60	Asn	Leu	Pro	Asn	
Leu Phe Glu	Asn I		Gly 70		Phe	Lys	Tyr	Lys 75		Ile	Pro	Ile	Ser 80	
Nen Hie Trr	Sor	Cln Z	Aen	T All	Sar	Gln	Pho	Pho	Pro	Glu	ΔΊа	Tlo	Ser	

4

```
85
Phe Ile Asp Glu Ala Arg Gly Lys Asn Cys Gly Val Leu Val His Cys
                                105
Leu Ala Gly Ile Ser Arg Ser Val Thr Val Thr Val Ala Tyr Leu Met
                            120
                                                125
Gln Lys Leu Asn Leu Ser Met Asn Asp Ala Tyr Asp Ile Val Lys Met
                        135
                                            140
Lys Lys Ser Asn Ile Ser Pro Asn Phe Asn Phe Met Gly Gln Leu Leu
                    150
                                        155
Asp Phe Glu Arg Thr Leu Gly Leu Ser Ser
                165
<210> 11
<211> 168
<212> PRT
<213> Homo sapien
<400> 11
Asp Arg Glu Leu Pro Ser Ser Ala Thr Glu Ser Asp Gly Ser Pro Val
Pro Ser Ser Gln Pro Ala Phe Pro Val Gln Ile Leu Pro Tyr Leu Tyr
                                25
Leu Gly Cys Ala Lys Asp Ser Thr Asn Leu Asp Val Leu Gly Lys Tyr
                            40
Gly Ile Lys Tyr Ile Leu Asn Val Thr Pro Asn Leu Pro Asn Ala Phe
                        55
Glu His Gly Gly Glu Phe Thr Tyr Lys Gln Ile Pro Ile Ser Asp His
                    70
                                        75
Trp Ser Gln Asn Leu Ser Gln Phe Phe Pro Glu Ala Ile Ser Phe Ile
                                    90
Asp Glu Ala Arg Ser Lys Lys Cys Gly Val Leu Val His Cys Leu Ala
                                105
Gly Ile Ser Arg Ser Val Thr Val Thr Val Ala Tyr Leu Met Gln Lys
                            120
Met Asn Leu Ser Leu Asn Asp Ala Tyr Asp Phe Val Lys Arg Lys Lys
                        135
Ser Asn Ile Ser Pro Asn Phe Asn Phe Met Gly Gln Leu Leu Asp Phe
                                        155
                    150
Glu Arg Thr Leu Gly Leu Ser Ser
                165
<210> 12
<211> 168
<212> PRT
<213> Homo sapien
<400> 12
Pro Ala Gln Ala Leu Pro Pro Ala Gly Ala Glu Asn Ser Asn Ser Asp
Pro Arg Val Pro Ile Tyr Asp Gln Gly Gly Pro Val Glu Ile Leu Pro
Tyr Leu Tyr Leu Gly Ser Cys Asn His Ser Ser Asp Leu Gln Gly Leu
Gln Ala Cys Gly Ile Thr Ala Val Leu Asn Val Ser Ala Ser Cys Pro
```

```
50
                        55
Asn His Phe Glu Gly Leu Phe His Tyr Lys Ser Ile Pro Val Glu Asp
                    70
                                        75
Asn Gln Met Val Glu Ile Ser Ala Trp Phe Gln Glu Ala Ile Ser Phe
                85
                                    90
Ile Asp Ser Val Lys Asn Ser Gly Gly Arg Val Leu Val His Cys Gln
                                105
Ala Gly Ile Ser Arg Ser Ala Thr Ile Cys Leu Ala Tyr Leu Ile Gln
                            120
Ser His Arg Val Arg Leu Asp Glu Ala Phe Asp Phe Val Lys Gln Arg
                       135
                                            140
Arg Gly Val Ile Ser Pro Asn Phe Ser Phe Met Gly Gln Leu Leu Gln
                    150
                                        155
Leu Glu Thr Gln Val Leu Cys His
                165
<210> 13
<211> 169
<212> PRT
<213> Homo sapien
<400> 13
Pro Leu Ser Thr Ser Val Pro Asp Ser Ala Glu Ser Gly Cys Ser Ser
Cys Ser Thr Pro Leu Tyr Asp Gln Gly Gly Pro Val Glu Ile Leu Pro
                                25
Phe Leu Tyr Leu Gly Ser Ala Tyr His Ala Ser Arg Lys Asp Met Leu
                            40
Asp Ala Leu Gly Ile Thr Ala Leu Ile Asn Val Ser Ala Asn Cys Pro
                        55
Asn His Phe Glu Gly His Tyr Gln Tyr Lys Ser Ile Pro Val Glu Asp
                    70
                                        75
Asn His Lys Ala Asp Ile Ser Ser Trp Phe Asn Glu Ala Ile Asp Phe
                85
                                    90
Ile Asp Ser Ile Lys Asn Ala Gly Gly Arg Val Phe Val His Cys Gln
                                105
Ala Gly Ile Ser Arg Ser Ala Thr Ile Cys Leu Ala Tyr Leu Met Arg
                            120
Thr Asn Arg Val Lys Leu Asp Glu Ala Phe Glu Phe Val Lys Gln Arg
                       135
                                            140
Arg Ser Ile Ile Ser Pro Asn Phe Ser Phe Met Gly Gln Leu Leu Gln
                    150
                                        155
Phe Glu Ser Gln Val Leu Ala Pro His
                165
<210> 14
<211> 169
<212> PRT
<213> Homo sapien
<400> 14
Pro Val Pro Pro Ser Ala Thr Glu Pro Leu Asp Leu Gly Cys Ser Ser
                 5
                                    10
Cys Gly Thr Pro Leu His Asp Gln Gly Gly Pro Val Glu Ile Leu Pro
```

```
25
Phe Leu Tyr Leu Gly Ser Ala Tyr His Ala Ala Arg Arg Asp Met Leu
                            40
                                                45
Asp Ala Leu Gly Ile Thr Ala Leu Leu Asn Val Ser Ser Asp Cys Pro
                       55
Asn His Phe Glu Gly His Tyr Gln Tyr Lys Cys Ile Pro Val Glu Asp
                                        75
Asn His Lys Ala Asp Ile Ser Ser Trp Phe Met Glu Ala Ile Glu Tyr
                                    90
Ile Asp Ala Val Lys Asp Cys Arg Gly Arg Val Leu Val His Cys Gln
                                105
Ala Gly Ile Ser Arg Ser Ala Thr Ile Cys Leu Ala Tyr Leu Met Met
                           120
Lys Lys Arg Val Arg Leu Glu Glu Ala Phe Glu Phe Val Lys Gln Arg
                       135
                                            140
Arg Ser Ile Ile Ser Pro Asn Phe Ser Phe Met Gly Gln Leu Leu Gln
                   150
                                        155
Phe Glu Ser Gln Val Leu Ala Thr Ser
                165
<210> 15
<211> 171
<212> PRT
<213> Homo sapien
<400> 15
Ser Glu Arg Ala Leu Ile Ser Gln Cys Gly Lys Pro Val Val Asn. Val
Ser Tyr Arg Pro Ala Tyr Asp Gln Gly Gly Pro Val Glu Ile Leu Pro
Phe Leu Tyr Leu Gly Ser Ala Tyr His Ala Ser Lys Cys Glu Phe Leu
                           40
                                                45
Ala Asn Leu His Ile Thr Ala Leu Leu Asn Val Ser Arg Arg Thr Ser
                        55
Glu Ala Cys Met Thr His Leu His Tyr Lys Trp Ile Pro Val Glu Asp
                    70
                                        75
Ser His Thr Ala Asp Ile Ser Ser His Phe Gln Glu Ala Ile Asp Phe
Ile Asp Cys Val Arg Glu Lys Gly Gly Lys Val Leu Val His Cys Glu
                                105
Ala Gly Ile Ser Arg Ser Pro Thr Ile Cys Met Ala Tyr Leu Met Lys
                           120
Thr Lys Gln Phe Arg Leu Lys Glu Ala Phe Asp Tyr Ile Lys Gln Arg
                       135
                                           140
Arg Ser Met Val Ser Pro Asn Phe Gly Phe Met Gly Gln Leu Leu Gln
                    150
                                        155
Tyr Glu Ser Glu Ile Leu Pro Ser Thr Pro Asn
                165
<210> 16
<211> 149
<212> PRT
<213> Homo sapien
```

```
<400> 16
Val Pro Ser Val Gly Leu Thr Arg Ile Leu Pro His Leu Tyr Leu Gly
                                    10
Ser Gln Lys Asp Val Leu Asn Lys Asp Leu Met Thr Gln Asn Gly Ile
                                25
Ser Tyr Val Leu Asn Ala Ser Asn Ser Cys Pro Lys Pro Asp Phe Ile
Cys Glu Ser Arg Phe Met Arg Val Pro Ile Asn Asp Asn Tyr Cys Glu
Lys Leu Leu Pro Trp Leu Asp Lys Ser Ile Glu Phe Ile Asp Lys Ala
                    70
                                        75
Lys Leu Ser Ser Cys Gln Val Ile Val His Cys Leu Ala Gly Ile Ser
                85
                                    90
Arg Ser Ala Thr Ile Ala Ile Ala Tyr Ile Met Lys Thr Met Gly Met
                                105
Ser Ser Asp Asp Ala Tyr Arg Phe Val Lys Asp Arg Pro Ser Ile
                            120
       115
                                                125
Ser Pro Asn Phe Asn Phe Leu Gly Gln Leu Leu Glu Tyr Glu Arg Thr
                        135
Leu Lys Leu Leu Ala
145
<210> 17
<211> 164
<212> PRT
<213> Homo sapien
<400> 17
Met Thr Ala Pro Ser Cys Ala Phe Pro Val Gln Phe Arg Gln Pro Ser
Val Ser Gly Leu Ser Gln Ile Thr Lys Ser Leu Tyr Ile Ser Asn Gly
                                25
Val Ala Ala Asn Asn Lys Leu Met Leu Ser Ser Asn Gln Ile Thr Met
Val Ile Asn Val Ser Val Glu Val Val Asn Thr Leu Tyr Glu Asp Ile
Gln Tyr Met Gln Val Pro Val Ala Asp Ser Pro Asn Ser Arg Leu Cys
Asp Phe Phe Asp Pro Ile Ala Asp His Ile His Ser Val Glu Met Lys
                                    90
Gln Gly Arg Thr Leu Leu His Cys Ala Ala Gly Val Ser Arg Ser Ala
                               105
Ala Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ala Met Ser Leu Leu
                            120
Åsp Ala His Thr Trp Thr Lys Ser Cys Arg Pro Ile Ile Arg Pro Asn
                       135
                                            140
Ser Gly Phe Trp Glu Gln Leu Ile His Tyr Glu Phe Gln Leu Phe Gly
                    150
                                        155
Lys Asn Thr Val
```

CONS

1